

CABINETMAKING

Levels: Grades 10-12
Units of Credit: 1.0
CIP Code: 48.0703
Prerequisite: Woodworking and Furniture Design & Manufacturing

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD **Students will be able to understand the cabinetmaking industry.**
480703-01

OBJECTIVES

480703-0101 Identify career opportunities in cabinetmaking/millwork manufacturing.
480703-0102 Identify career opportunities in related millwork industries.
480703-0103 Describe the integration of cabinetmaking into construction schedules.

STANDARD **Students will be able to understand the design, planning and estimation process.**
480703-02

OBJECTIVES

480703-0201 Identify elements and principles of design as they apply to cabinetmaking/millwork manufacturing.
480703-0202 Draw the necessary views of a selected project.
480703-0203 Create a material list for the selected project and determine the project cost.
480703-0204 Create a procedure list for construction of a cabinet.
480703-0205 Extract pertinent cabinet information and specifications from blueprints.
480703-0206 Identify cabinet standards relating to kitchen, vanity, and commercial type cabinets (quality standards, dimension standards, etc.).

STANDARD **Students will be able to understand and demonstrate safe practices.**
480703-03

OBJECTIVES

480703-0301 Demonstrate the ability to work safely in a cabinet shop following general safety rules.
480703-0302 Demonstrate the safe use of woodworking tools and machines.
480703-0303 Demonstrate how to handle and store materials according to MSDS sheets.
480703-0304 Pass a written safety test with a score of 100 percent.

STANDARD **Students will be able to understand and demonstrate the**
480703-04 **safe use of hand tools.**

OBJECTIVES

- 480703-0401 Describe the purpose and demonstrate the proper use of striking tools.
- 480703-0402 Describe the purpose and demonstrate the proper use of measuring and layout tools.
- 480703-0403 Describe the purpose and demonstrate the proper use of sawing tools.
- 480703-0404 Describe the purpose and demonstrate the proper use of edge-cutting tools.
- Sharpen selected edge-cutting tools.
- 480703-0405 Describe the purpose and demonstrate the proper use of fastening tools.

STANDARD **Students will be able to understand and demonstrate the**
480703-05 **safe use of portable power tools.**

OBJECTIVES

- 480703-0501 Describe the purpose and demonstrate the proper use of routers.
- 480703-0502 Describe the purpose and demonstrate the proper use of reciprocal or circular saws.
- 480703-0503 Describe the purpose and demonstrate the proper use of a biscuit jointer.
- 480703-0504 Describe the purpose and demonstrate the proper use of a power plane.
- 480703-0505 Describe the purpose and demonstrate the proper use of power drills and drivers.
- 480703-0506 Describe the purpose and demonstrate the proper use of pneumatic tools.

STANDARD **Students will be able to understand and demonstrate the**
480703-06 **safe use of power machines.**

OBJECTIVES

- 480703-0601 Describe the purpose and demonstrate the proper use of cutting machines.
- Table Saw – change blade, setup dado blade, cut a bevel, rip, cross cut, miter.
 - Scroll Saw – cut arcs, circles, change blade, and set tension.
 - Radial Arm Saw – cross cut
 - Panel Saw – cut horizontal and vertical.
 - Band Saw – cut arcs and circles

- 480703-0602 Describe the purpose and demonstrate the proper use of edge and surfacing machines.
- Jointer – facing and edging.
 - Surfacer – surface.
- 480703-0603 Describe the purpose and demonstrate the proper use of shaping machines.
- Shaper – cut straight edge or curved edge with a collar.
 - Router table—route straight and curved edges.
- 480703-0604 Describe the purpose and demonstrate the proper use of boring machines.
- Drill Press – setup, adjust, and bore.
- 480703-0605 Describe the purpose and demonstrate the proper use sanding machines.
- Spindle Sander
 - Disc Sander
 - Belt/Drum Sander

STANDARD
480703-07 **Students will be able to understand wood components and characteristics.**

OBJECTIVES

- 480703-0701 Describe the anatomy of a tree and the significance that it has in cabinet construction.
- Describe and know how to deal with natural and manmade defects.
- 480703-0702 Demonstrate a knowledge of the seasoning and drying of lumber.
- 480703-0703 Distinguish between softwoods and hardwoods.
- 480703-0704 Identify the differences between solid wood and manmade goods and describe the use of each.
- 480703-0705 Identify wood species and list the species most suited for cabinet construction.
- 480703-0706 Identify the different grades of lumber, panel, and sheet goods.
- 480703-0707 Properly store material.

STANDARD
480703-08 **Students will be able to understand and demonstrate basic math and measuring concepts.**

OBJECTIVES

- 480703-0801 Calculate the cost of a project.
- 480703-0802 Demonstrate the optimization of materials.
- 480703-0803 Demonstrate basic woodworking math proficiency.
- 480703-0804 Multiply two-digit numbers.
- 480703-0805 Calculate board feet and square feet.
- 480703-0806 Read and measure with a tape using sixteenths (1/16).

STANDARD
480703-09 **Students will be able to understand and demonstrate the use of fasteners, adhesives, and abrasives.**

OBJECTIVES

- 480703-0901 Identify the various fasteners and demonstrate the application of each in cabinetmaking.(nails, screws, staples, bolts)
- 480703-0902 Identify the different adhesives and preferred use of each.
- 480703-0903 Identify abrasive types; select and correctly use each specified grit size.
- 480703-0904 Identify the different types of clamps – Bar, “C”, Spring, Band, and Handscrew.

STANDARD
480703-10 **Students will be able to understand and demonstrate the use of joinery.**

OBJECTIVES

- 480703-1001 Identify the basic wood joints used in cabinetmaking/millwork.
▪ Butt, miter, rabbet, dado, spline, mortise and tenon, dovetail, groove (plough), lap
- 480703-1002 Construct the basic wood joints used in cabinetmaking/millwork.

STANDARD
480703-11 **Students will be able to understand and demonstrate the use of cabinet components and hardware.**

OBJECTIVES

- 480703-1101 Identify the parts of traditional and European kitchen cabinets (stile, rail, mullion, kicker, base, toe kick, edge banding, drawer guide/glide, shelf, bottom, web frame, nailer, molding, skin, side, back, filler strip)
- 480703-1102 Describe the concept of a European (frameless) cabinet system and the advantages and disadvantages of each.
- 480703-1103 Identify the door options in cabinetmaking.
- 480703-1104 Identify the components of a drawer.
- 480703-1105 Identify and properly install common cabinet/furniture hardware (hinges, drawer glides, pulls, knobs, shelf supports).
- 480703-1106 Assemble a project with the proper adhesive and fasteners.
- 480703-1107 Layout and construct various common types of cabinet doors.
- 480703-1108 Cut out and construct various common types of drawers.
- 480703-1109 Install door and drawer.

STANDARD
480703-12 **Students will be able to understand and demonstrate finishing, installation, and transportation techniques.**

OBJECTIVES

- 480703-1201 Properly prepare a surface for Finishing
- 480703-1202 Properly apply stain, penetrating oil, or clear finish.

480703-1203	Know how to protect and transport cabinets.
480703-1204	Understand basic cabinet installation techniques.

PROFESSIONAL DEVELOPMENT

STANDARD 480703-13	The student will understand the need for professional development.
-------------------------------	---

OBJECTIVES

480703-1301	Complete a personal inventory.
480703-1302	Set and meet goals.
480703-1303	Be self-motivated.
480703-1304	Know how to make decisions.
480703-1305	Know how to manage time.
480703-1306	Organize personal belongings and lab equipment.
480703-1307	Learn to communicate verbally.
480703-1308	Write effective communications.
480703-1309	Establish a personal reading program.
480703-1310	Develop effective work skills and attitudes.
480703-1311*	Master a working knowledge of SkillsUSA. <ul style="list-style-type: none"> ▪ State the SkillsUSA motto. ▪ State the SkillsUSA creed. ▪ Learn the SkillsUSA colors. ▪ Describe the official SkillsUSA dress. ▪ Describe the procedure for becoming a SkillsUSA officer.

STANDARD 480703-14	The student will understand the need for leadership skills.
-------------------------------	--

OBJECTIVES

480703-1401	Serve on a committee.
480703-1402	Prepare an agenda.
480703-1403	Assist in planning a meeting.
480703-1404	Review basic parliamentary procedure. <ul style="list-style-type: none"> ▪ Make a main motion.
480703-1405	Participate in a school project.
480703-1406	Attend a community meeting.
480703-1407	Practice effective speaking.
480703-1408	Present a three- to five-minute talk.
480703-1409	Implement a leadership project.
480703-1410*	Master a working knowledge of SkillsUSA. <ul style="list-style-type: none"> ▪ Describe the meaning of the SkillsUSA emblem. ▪ State the SkillsUSA pledge. ▪ Describe the duties of a SkillsUSA officer.

STANDARD	The student will understand the need for career planning.
-----------------	--

480703-15

OBJECTIVES

- 480703-1501 Define your future occupation.
- 480703-1502 Survey employment opportunities.
- 480703-1503 Report on a trade journal article.
- 480703-1504 Explore opportunities for advanced training.
- 480703-1505 Conduct a worker interview.
- 480703-1506 Contact a professional association.
- 480703-1507 Explore entrepreneurship opportunities.
- 480703-1508 Give a talk about your career.
- 480703-1509 Review career goals.

*SkillsUSA PDP requirements - optional but recommended

STANDARD **The student will understand the importance of**
480703-16 **employability and work habits.**

OBJECTIVES

- 480703-1601 Develop a list of work standards to follow at school and on the job.
- 480703-1602 Evaluate your personal ethics.